



Lubrizol

**PEARLBOND™ TPU
FOR HOT MELTS
ADHESIVES
PRODUCT
SELECTION
GUIDE**

LUBRIZOL
ENGINEERED
POLYMERS

**ADVANCING MATERIALS.
ELEVATING PERFORMANCE.**

TPU (THERMOPLASTIC POLYURETHANE) FOR HOT MELT ADHESIVES

IDENTIFICATION	TPU Polyol type	MELTING BEHAVIOR				COLD BEH.	CRYSTALLIZATION BEHAVIOR		THERMO-PLASTICITY	PROCESS TEMPERATURE		MECHANICAL PROPERTIES				BONDING PROCESS	RESISTANCE TO			APPLICATION						
		Hardness (Shore A) (ASTM D2240)	Melting Peak by DSC (°C) (Method A & B)***	MFI (g/10 min) (ASTM D1238) 170°C 2.16kg	MFI (g/10 min) (ASTM D1238) 170°C 21.6kg		Glass transition by DSC (°C) (Method B) ***	Crystallization time by DSC (min) (Method A)***		Crystallization time (MQSA 12B)	Thermoplasticity Range (MQSA 68A)	Softening point by Kofler (°C) (MQSA 70A)	Melting point by Kofler (°C) (MQSA 70A)	Tensile Strength (MPa) (ASTM D412)	Tensile Strength at 100% (MPa) (ASTM D412)		Tensile Strength at 300% (MPa) (ASTM D412)	Elongation at break (%) (ASTM D412)	Minimum Activation Temperature (°C) (LA-17 method)	Wash at 60 °C	Dry clean	Steam	Powder	Hot Melt	Film	Footwear
Pearlbond™ 100	PCL (1)	51D	56 (A)	15-30	NA	-41	31	+	Very high	55-60	64-68	NA	NA	NA	NA	60	NR	NR	NR	✓	✓		✓		✓	
Pearlbond™ 103	PCL (1)	51D	59 (A)	60-100	NA	-41	25	++	Very high	55-60	60-64	NA	NA	NA	NA	60	NR	NR	NR	✓	✓		✓		✓	
Pearlbond™ 180	Polyester	50D	57 (A)	10-30	NA	-40	27	++	Very high	55-60	65-71	NA	NA	NA	NA	60	NR	NR	NR	✓	✓		✓	✓	✓	
Pearlbond™ 220	PCL (1)	54D	58 (A)	15-30	NA	-40	25	++	Very high	55-60	64-68	NA	NA	NA	NA	60	NR	NR	NR	✓	✓		✓	✓	✓	
Pearlbond™ 223	PCL (1)	54D	61 (A)	60-100	NA	-41	22	++	Very high	55-60	60-64	NA	NA	NA	NA	60	NR	NR	NR	✓	✓		✓		✓	
Pearlbond™ 106	Polyester	93A	53 (A)	10-30	NA	-39	31	+	Very high	55-60	60-70	NA	NA	NA	NA	60	NR	NR	NR	✓	✓		✓			
Pearlbond™ ECO 590	Polyester	52D	65 (A)	30-60	NA	-40	17	+++	Very high	70-80	80-85	12	2	3	500	80	G	NR	NR	✓		✓	✓		✓	
Pearlbond™ 1160	Polyester	90A	49 (A)	NA	20-60	-39	27	++	High	80-85	115-120	30	5	6	717	85	G	NR	NR	✓		✓	✓	✓	✓	
Pearlbond™ 1160L	Polyester	90A	49 (A)	4-9	NA	-39	26	++	High	80-85	105-110	25	5	5	763	65	G	NR	NR	✓		✓	✓	✓	✓	
Pearlbond™ 1170L EXP	Polyester	90A	55 (A)	5-35(2)	NA	-38	26	++	High	115-120	125-130	20.7	6.9	7.2	578	91	G	NR	NR	✓		✓	✓	✓	✓	
Pearlbond™ 5713	Polyester	90A	49 (A)	NA	20-50	-43	42	+	High	60-65	65-70	38	5.7	11.2	550	65	F	F	F	✓		✓			✓	
Pearlbond™ 5713 F1	Polyester	90A	47 (A)	10-25	NA	-44	>50	+	Medium	85-90	100-105	31	4	6	700	68	F	F	F						✓	
Pearlbond™ 700 EXP	Polyester	97A	112 (A)	30-50	NA	NA	5	++++	Very high	100-110	115-125	42	18	27	562	110	G	G	G	✓	✓	✓		✓	✓	
Pearlbond™ 700 HMS EXP	Polyester	66D	106 (A)	NA	15-40	NA	10	+++	Medium	130-140	175-185	35	15	30	350	120	G	G	G						✓	✓
Pearlbond™ 702 EXP	Polyester	93A	93 (A)	30-50	NA	NA	27	++	High	95-100	105-115	35	17	31	342	100	G	G	F	✓	✓	✓	✓	✓	✓	✓
Pearlbond™ 703 EXP	Polyester	90A	80 (A)	30-50	NA	NA	40	+	Very high	70-80	85-100	33	17	27	412	80	G	F	NR	✓	✓	✓	✓	✓	✓	✓
Pearlbond™ 301	Polyester	52A	65 (B)	25-40	NA	-30	>50	+	High	90-100	100-110	13	1.1	1.6	950	100	G	NR	NR	✓	✓	✓	✓		✓	
Pearlbond™ 302	Polyester	55A	75 (B)	5-25	NA	-30	>50	+	High	100-110	110-120	11	1.2	1.6	850	110	G	NR	NR	✓	✓	✓	✓		✓	
Pearlbond™ 360 EXP	Polyether	68A	75 (B)	5-20	NA	-49	>50	-	Medium	115-125	125-135	6	2	3	915	125	G	NR	NR	✓	✓	✓	✓		✓	
Pearlbond™ 960 EXP	Polyether (aliphatic)	69A	72 (B)	NA	20-40	-10	>50	-	Low	150-160	170-180	44	4	13	503	95	G	NR	G				✓		✓	
Pearlbond™ 305	Polyester	64A	102 (B)	NA	10-30	-50	>50	-	Low	155-165	180-190	12	2	4	702	115	G	G	G	✓	✓	✓	✓	✓	✓	✓
Pearlbond™ 415L EXP	Polyester	70A	37 (B)	40-100	NA	-43	>50	-	Medium	70-80	80-90	15	2	4	705	80	F	F		✓	✓	✓				✓
Pearlbond™ 415 EXP	Polyester	70A	38 (B)	10-30	NA	-45	>50	-	Medium	90-100	100-110	22	1.9	3.8	800	85	F	F		✓	✓	✓				✓
Pearlbond™ 5717 NT2	Polyester	70A	71 (B)	20-40	NA	-30	NA	-	Low	65-75	75-85	10	2.5	4	750	75	F	F		✓	✓	✓				✓
Pearlbond™ DIPP 119	PCL (1)	70A	63 (B)	5-20	NA	-30	>50	-	Medium	90-100	100-110	20	3	4	750	100	G	NR	NR	✓		✓		✓		✓
Pearlbond™ UB400*	Polyester	78A	126 (B)	NA	20-50	-18	>50	-	Low	90-100	105-115	34	4	7	630	105	G	NR	G	✓	✓	✓				✓
Pearlbond™ 12C75	Polyester	78A	62 (B)	10-30	NA	-32	>50	-	Low	110-130	130-140	20	4	5.5	745	130	G	NR	G	✓		✓			✓	✓
Pearlbond™ 12F75UV	Polyester	78A	62 (B)	NA	60-90	-30	>50	-	Low	110-130	130-140	30	5	6.5	620	130	G	NR	G	✓		✓			✓	✓
Pearlbond™ 125H	Polyester	85A	62 (B)	15-40	NA	-32	>50	-	Low	110-130	130-140	26	5	7	630	130	G	NR	G	✓		✓		✓		✓
Pearlbond™ 5708 F3	Polyester	86A	132 (B)	NA	25-45	-44	>50	-	Very Low	150-160	170-180	52	5	10	600	145	G	NR	G		✓	✓				✓
Pearlbond™ HM 85AB0 NAT 021**	Polyester	84A	139 (B)	10-30	NA	-26	>50	-	Low	125-135	135-145	20	5	6	775	125	G	G	F	✓	✓	✓	✓			✓
Pearlbond™ HM 95AB0 NAT 021**	Polyester	94A	161 (B)	5-20	NA	-26	>50	-	Low	150-160	165-175	25	9	12	630	160	G	G	G	✓	✓	✓				✓

<10' ++++
10-20' +++
21-30' ++
31-50' +
> 50' -

All products may be available, upon request, in powder form as per below:
Maximum Particle Size of powder in µm (100%) <106 <250 <355 <500
Grade S X F L

G - Good
F - Fair
NR - Not recommended

* only available in APAC ** product available under restricted terms, please contact your Lubrizol sales contact *** DSC METHOD A = CRIST-30 (140) / DSC METHOD B = Melt coating-20
(1) PCL = Polycaprolactone Copolyester (2) 175°C; 2.16Kg

LUBRIZOL GLOBAL PRESENCE

Our global presence means we have the application and development laboratories (with technical service ability) already in place, as well as worldwide production capabilities and renowned customer service. We are also a specialty producer of performance coatings and other unique products for apparel. Teaming with Lubrizol simplifies a complex global supply chain.

Americas

Lubrizol Advanced
Materials, Inc.
9911 Brecksville Road
Cleveland, Ohio 44141-3201
USAPhone: +1 888 234 2436

Asia

Lubrizol Specialty Chemicals
(Shanghai) Co., Ltd.
10F, Park Center International
1088 Fang Dian Road
Shanghai PRC 201204
Phone: +86 21 3866 0366

Europe, Middle East, India & Africa

Lubrizol Advanced Materials Spain S.L.
Gran Vial, no. 17
08160 Montmeló (Barcelona), Spain
Phone: +34 93 579 9522
Technology Center – Adhesives



To learn more, contact us at engineeredpolymers@lubrizol.com
or visit www.lubrizol.com/Engineered-Polymers

The SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendation, nor as an inducement to practice any patented invention without permission of the patent owner.

© 2018 The Lubrizol Corporation. All rights reserved.
All marks are the property of The Lubrizol Corporation.
GL-HM-012018



contact us at
<http://go.lubrizol.com/EP>